



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/019,307

04/11/2002

Jonathan Joseph Campbell

P67505US0

8634

136

7590

06/28/2004

JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER

SAINT SURIN, JACQUES M

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

5

| | | | |
|------------------------------|-----------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/019,307 | Applicant(s) CAMPBELL ET AL. | |
| | Examiner Jacques M Saint-Surin | Art Unit 2856 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,9-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 14-21 is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 9-11 is/are rejected.
- 7) ☐ Claim(s) 22-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/05/04 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 1-3, 5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer (US Patent 4,237,454) in view of Canada et al. (US Patent 6,297,742).

Regarding claim 1, Meyer shows in Fig. 2, a vibration sensor (19) which is located on the exterior surface of equipment to be monitored 14. Meyer further shows transmitter (21) and receiver (27) at a remote location (e.g. central station). In addition, Fig. 3 of Meyer shows a data processor (microprocessor 29) connected to the receiver 27 and display means (30). Note that the limitation "transmitting the signals for a predetermined time" is inherently met in the device of Meyer which is capable of transmitting a signal from a transmitter for a predetermined time. Meyer specifically

Art Unit: 2856

states in col. 3, lines 47-50, that power is generated to run the detection circuitry continuously, however, if the power is stored, the transmitter operates occasionally. This teaching clearly infers and/or suggest transmitting at a predetermined period of time since the reference explicitly teaches monitoring rotating equipment including a transmitter that can operate occasionally. However, Meyer does not specifically disclose or suggest the sensor located on an exterior surface of the moving machine. Canada et al. discloses monitor 100 incorporates sensors within the monitor 100, it will be understood that sensors may be located external to the monitor as well, for example, flux and vibration sensors may be incorporated within the motor 102 and at various locations within the motor 102, see: col. 6, lines 16-21. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Meyer the arrangement of Canada because the monitor senses one or more operating characteristics of the machine and produces sensor signals corresponding to the sensed characteristics thereby providing the advantages of determining the operating condition of the machine in a reliable manner.

Regarding claim 2, Meyer discloses that the receiver (27) is at central station.

Regarding claim 3, as shown in Fig. 2, Meyer discloses a self-powered power supply (e.g., piezo-ceramic element 22) for the sensor (19) located on the machine (14).

Regarding claim 5, Meyer discloses a demodulator (28) receives the modulated frequency of the frequency of the received signal and presents the information to the processor (e.g., microprocessor 29) (col. 4, lines 6-15). Meyer also incorporates reference U.S. Pat. No. 3, 677, 072, which measures the peak values of the vibration signal obtained from the machine (col. 2, lines 67-68, col. 3, lines 1-5). The processor

Art Unit: 2856

that Meyer uses is inherently capable of producing output signals representing a plurality of events within the machine (14) since the processor (e.g., microprocessor 29) contains memory.

Regarding claims 9 and 10, Meyer discloses a sensor (19). The device of Meyer further discloses the processor (e.g., microprocessor 29) includes a look-up table of the number of the monitor unit at the unit location (col. 4, lines 6-15). The processor (e.g., microprocessor 29) Meyer uses is a combination of a processor and a detector to determine the location of the sensor. With respect to the further limitations of claim 10, the processor (e.g., microprocessor 29) Meyer uses inherently includes a timing means to calculate the location of the sensor (19).

Regarding claim 11, Meyer discloses an accelerometer or other vibration sensor (19) (col. 3, lines 15).

Allowable Subject Matter

5. Claims 12 and 14-21 are allowable over the prior art of record.
6. Claims 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

French et al. (US Patent 6,161,962) discloses a bearing with sensor module.

Brown (US Patent 6,593,854) discloses a system of monitoring bearing performance.


Art Unit: 2856

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques M. saint-Surin
June 24, 2004


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800